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Introduction

The Bureau of Transportation Statistics (BTS) in the U.S. Department of Transportation (USDOT) is the newest agency in the federal statistical system. BTS was authorized by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and began operations in late 1992. (A small staff group was assigned to work on setting up BTS in October 1992; the management order for BTS to begin operations was signed by the secretary in December 1992.) BTS's first director, T.R. Lakshmanan, was nominated a little more than a year later, in January 1994, and confirmed by the Senate in June 1994.

BTS joins a group of agencies—including the Bureau of the Census, the Bureau of Labor Statistics, the Energy Information Administration, the National Center for Education Statistics, and others—each of which has a mission to provide data and statistics in a broad subject area for public- and private-sector decision making, program planning and evaluation, research, and general public understanding. Although USDOT has from the beginning included statistical units with specialized responsibilities for data programs—such as the Safety Data Services Division in the Federal Aviation Administration, the Office of Highway Information Management in the Federal Highway Administration, the Office of Statistical and Economic Analysis in the Maritime Administration, and the National Center for Statistics and Analysis in the National Highway Traffic Safety Administration—BTS is the first statistical agency established in the department with a broad mandate.

The same ISTEA legislation that authorized BTS (see Appendix A) also called for a study of USDOT data collection procedures and capabilities by the National Academy of Sciences/National Research Council. The scope of the study was developed in the course of discussions with the Congress and USDOT,

and in fall 1995 the Committee on National Statistics and the Transportation Research Board of the National Research Council established the Panel on Statistical Programs and Practices of the Bureau of Transportation Statistics.

The panel was charged to review the statistical programs of BTS and its practices to improve the quality and usefulness of transportation data throughout USDOT and the federal statistical system. It was asked to examine the functions that BTS does or could perform (e.g., statistical policy, data collection, analysis, dissemination) and its resources and capabilities to carry out those functions. The panel was asked to focus particularly on two areas: (1) the statistical policy functions of the agency vis-à-vis the department—such as coordinating data collection programs, providing standards for data collection and reporting, and providing guidance on confidentiality issues, documentation, and quality control and (2) the agency's relationships to other USDOT agencies, to other federal statistical agencies, and to other transportation data providers and users, such as state and metropolitan agencies.

In summary, the panel was asked to review BTS's functions, capabilities, resources, and relationships with other agencies. In developing and presenting its findings and recommendations, the panel illustrates its points with examples of transportation data needs, data collection programs, time-series indicators, and data quality assessments. However, the panel was neither charged nor constituted to carry out a review of transportation data programs or data needs as such, and it has not done so. For a comprehensive assessment of data requirements for national transportation policy making, see *Data for Decisions*, a report of a committee of the Transportation Research Board (National Research Council, 1992a). This report identified problems and gaps in needed data and indicators, particularly for analyses of policy issues that cut across transportation modes, and called for the establishment of a transportation data center—what ultimately became BTS.

METHODS OF STUDY

The collection and use of data for public purposes are prescribed by the U.S. Constitution (which requires a decennial census as the basis for apportionment of seats in the U.S. House of Representatives) and by many statutes. A number of federal statistical agencies can trace their history back 100 years or more. However, there is only a small literature that establishes criteria for effective statistical agencies (see, e.g., National Research Council, 1992b) or that examines what factors help them gain stature in their department, develop useful, high-quality, credible data series, and build strong ties with user communities.

This study of BTS therefore relies heavily on the experience and judgment of members of the panel who have directed other statistical agencies (or major programs in such agencies) or who have conducted reviews of the federal statistical system and individual agencies. (These members have contributed to the litera-

ture in this area—see, e.g., Bonnen, 1983, 1996; Groves, 1995; Mitroff, Mason, and Barabba, 1983; Norwood, 1995.) Because a statistical agency must operate within the context of its department and the set of user needs in its subject area, the panel relied on its members from the transportation community to assess the applicability of conclusions developed from observation of other federal statistical agencies to the situation facing BTS.

The panel obtained information on the operation of statistical programs in other parts of USDOT, learned about data needs of state departments of transportation and their assessment of BTS to date, reviewed BTS's budget and staffing plans and materials provided by BTS on its products and services and their users, and closely examined selected BTS products and services (including printed publications, CD-ROM data products, and the contents of BTS's World Wide Web site) on such dimensions as data quality and ease of use. The panel also looked at how other statistical agencies have implemented selected aspects of their operations, such as the development of data quality standards, relationships with state and local users and providers of data, and confidentiality protection for data provided by individual respondents. The recommendations developed by the panel reflect these inputs as they were evaluated by the panel members on the basis of their experience and judgment.

THE REPORT

The first part of Chapter 2 reviews the history and rationale that led to the establishment of BTS as a statistical agency with broad responsibilities in the area of transportation. Such an agency was late in coming to USDOT because of the historically strong orientation of transportation policy and associated data collection to particular transportation modes (highway, air, rail, etc.). However, the need for a statistical agency that continually works to coordinate and improve a wide range of transportation data programs to support cross-modal, system-wide policy planning and other purposes is clear. The second part of Chapter 2 compares BTS's accomplishments to date with its mandate from ISTEA and with the criteria for an effective statistical agency found in the literature and developed from panel members' experience and judgments. The panel's fundamental conclusion from this review is that BTS has made a good beginning in its very brief span of existence and should be reauthorized by the U.S. Congress.

The bulk of the report looks to the future. Chapter 3 discusses the priority that BTS should place on activities to improve the quality of transportation data. To date, while getting under way, BTS has focused primarily on data compilation and dissemination and less on data improvement. This orientation needs to change now. The chapter recommends provisions to include in the reauthorization of BTS to strengthen its role for data improvement in the department, as well as actions by BTS to develop the full range of statistical and analytical capabilities in its staff that are necessary to carry out its responsibilities.

Chapter 4 addresses BTS's program responsibilities to ensure the relevance of transportation data for policy making and other important user needs. These responsibilities include developing statistical series that can serve as indicators of key aspects of the transportation system and playing a stronger role in the coordination of transportation data collection inside and outside USDOT. The chapter also considers opportunities for BTS to assist key constituencies, including state transportation departments and metropolitan planning organizations, to make more effective use of BTS and other transportation data.

Finally, Chapter 5 considers institutional characteristics that are important for BTS to have. It recommends provisions that should be explicitly continued or added in the reauthorization of BTS to ensure that it continues as a statistical agency that is independent of policy or political control. To be successful over the long term, BTS must be able to function at the highest level of professional standards, objectivity, and credibility.

The appendices provide important background information or illustrate points made in the text through case studies. They include: references to BTS in the 1991 ISTEA (Appendix A); information about other statistical agencies inside and outside USDOT (Appendix B); a comparison of BTS with the principles and practices for a federal statistical agency expressed in a report of the Committee on National Statistics (National Research Council, 1992b) (Appendix C); a case study of improving airline safety statistics in BTS's annual statistical compendium, *National Transportation Statistics* (Appendix D); descriptions of selected CD-ROM products on the BTS World Wide Web site (Appendix E); and a case study of integrating data and filling data gaps for household travel surveys (Appendix F). The final appendix contains biographical sketches of panel members and staff (Appendix G).

A NOTE ON REAUTHORIZATION LEGISLATION

The Clinton administration has introduced a bill to reauthorize the 1991 ISTEA: the National Economic Crossroads Transportation Efficiency Act of 1997 (NEXTEA). The NEXTEA bill would reauthorize BTS for another 6 years, continue many of the provisions about BTS from the earlier legislation, and amend other provisions. We have developed recommendations about BTS independently, several of which call for changes to BTS's legislative authority. The rationale for these (and other) recommendations is developed in the body of the report. We hope that the Congress will give careful consideration to our recommendations when developing reauthorization legislation for BTS.